ELSEVIER

Forest Ecology and Management 197 (2004) 337–339

Forest Ecology and Management

www.elsevier.com/locate/foreco

# Contents of *Forest Ecology and Management*, Volume 197

**VOLUME 197, ISSUES 1–3** **11 AUGUST 2004**

## Special Issue: Dynamics and Conservation of Genetic Diversity in Forest Ecosystems

**Preface**

Dynamics and conservation of genetic diversity in forest ecosystems
A. Kremer and M.-P. Reviron (Cestas, France) . . . . . 1

**Introduction**

*Review article*

Recent developments in conservation genetics
P.W. Hedrick (Tempe, AZ, USA). . . . . 3

**Gene flow**

*Review article*

Measuring pollen flow in forest trees: an exposition of alternative approaches
P.E. Smouse (New Brunswick, NJ, USA) and V.L. Sork (Los Angeles, CA, USA) . . . . . 21

*Original article*

Local pollen dispersal and distant gene flow in Norway spruce (*Picea abies* [L.] Karst.)
J. Burczyk (Bydgoszcz, Poland), A. Lewandowski and W. Chalupka (Kórnik, Poland). . . . . 39

**Hybridisation**

*Review article*

Hybrid zones as a tool for identifying adaptive genetic variation in outbreeding forest trees: lessons from wild annual sunflowers (*Helianthus* spp.)
C. Lexer (Bloomington, IN, USA), B. Heinze (Vienna, Austria), R. Alia (Madrid, Spain) and L.H. Rieseberg (Bloomington, IN, USA). . . . . 49

*Original article*

Genetic analysis of the *Picea sitchensis* × *glauca* introgression zone in British Columbia
S. Yaw Bennuah, T. Wang and S.N. Aitken (Vancouver, Canada) . . . . . 65

**Adaptation**

*Review articles*

Genetic variation in cessation of growth and frost hardiness and consequences for adaptation of *Pinus sylvestris* to climatic changes
O. Savolainen, F. Bokma, R. García-Gil, P. Komulainen (Oulu, Finland) and T. Repo (Joensuu, Finland). . . . . 79

Relating processes to patterns of genetic variation across landscapes
R.G. Latta (Halifax, Canada). . . . . 91

*Original article*

Genetic resources in maritime pine (*Pinus pinaster* Aiton): molecular and quantitative measures of genetic variation and differentiation among maternal lineages
S.C. González-Martínez (Madrid, Spain), S. Mariette (Cestas, France and Nogent-sur-Vernisson, France), M.M. Ribeiro (Castelo Branco, Portugal), C. Burban, A. Raffin (Cestas, France), M.R. Chambel (Madrid, Spain), C.A.M. Ribeiro (Castelo Branco, Portugal), A. Aguiar (Oeiras, Portugal), C. Plomion (Cestas, France), R. Alía, L. Gil (Madrid, Spain), G.G. Vendramin (Firenze, Italy) and A. Kremer (Cestas, France) . . . . . 103

doi:10.1016/S0378-1127(04)00490-6

**Colonization and climate change**

*Review articles*

Ecology and genetics of tree invasions: from recent introductions to Quaternary migrations
R.J. Petit (Cetas, France), R. Bialozyt (Cetas, France and Marburg, Germany), P. Garnier-Géré (Cestas, France) and A. Hampe (Sevilla, Spain) . . . . . 117

Reconstructing historical ranges with fossil data at continental scales
J.S. McLachlan and J.S. Clark (Durham, NC, USA) . . . . . 139

*Original articles*

May inclusion of trait differences in genetic cluster analysis alter our views?
E.M. Gillet (Gottingen, Germany and Escherode, Germany), H.-R. Gregorius and M. Ziehe (Gottingen, Germany) . . . . . 149

Genetic consequences of forest population dynamics influenced by historic climatic variability in the western USA
R.D. Westfall and C.I. Millar (Berkeley, CA, USA) . . . . . 159

**Spatial dynamics and natural regeneration**

*Review article*

Inferences involving individual coefficients of relatedness and inbreeding in natural populations of *Abies*
K. Ritland and S. Travis (Vancouver, Canada) . . . . . 171

*Original articles*

Year and tree effect on reproductive organisation of *Cedrus atlantica* in a natural forest
F. Krouchi, A. Derridj (Tizi-Ouzou, Algeria) and F. Lefèvre (Avignon, France) . . . . . 181

Spatial pattern analysis of tree species distribution in a tropical rain forest of Cameroon: assessing the role of limited dispersal and niche differentiation
O.J. Hardy (Bruxelles, Belgium) and B. Sonké (Yaoundé, Cameroon and Bruxelles, Belgium) . . . . . 191

**Artificial seed transfer**

*Review article*

Past anthropogenic influence on European forests and some possible genetic consequences
R.H.W. Bradshaw (Copenhagen, Denmark) . . . . . 203

*Original articles*

Adaptational characteristics of autochthonous populations—consequences for provenance delineation
J.R.G. Kleinschmit, D. Kownatzki and H.-R. Gregorius (Göttingen, Germany) . . . . . 213

RAPD and mtDNA variation among autochthonous and planted populations of *Picea abies* from the Vosges mountains (France) in reference to other French populations
S. Jeandroz, A.M. Collignon and J.M. Favre (Vandoeuvre Lès Nancy, France) . . . . . 225

**Silvicultural regimes**

*Review article*

Genetic implications of silvicultural regimes
R. Finkeldey and M. Ziehe (Göttingen, Germany) . . . . . 231

*Original article*

Pollen movement under alternative silvicultural practices in native populations of Scots pine (*Pinus sylvestris* L.) in central Spain
J.J. Robledo-Arnuncio (Madrid, Spain), P.E. Smouse (New Brunswick, NJ, USA), L. Gil and R. Alía (Madrid, Spain) . . . . . 245

**Conservation**

*Review article*

Human impacts on forest genetic resources in the temperate zone: an updated review
F. Lefèvre (Avignon, France) . . . . . 257

*Original articles*

Genetic variation of relic tree species: the case of Mediterranean *Zelkova abelicea* (Lam.) Boisser and *Z. sicula* Di Pasquale, Garfì and Quézel (Ulmaceae)
S. Fineschi (Firenze, Italy), S. Cozzolino, M. Migliaccio (Napoli, Italy) and G.G. Vendramin (Firenze, Italy) . . . . . 273

The differences among hairy and typical European black poplars and the possible role of the hairy type in relation to climatic changes
D. Kajba (Zagreb, Croatia), D. Ballian (Sarajevo, Bosnia and Herzegovina), M. Idžojtić and S. Bogdan (Zagreb, Croatia) . . . . . 279

Targeting genetic resource conservation in widespread species: a case study of *Cedrela odorata* L.
S. Cavers (Midlothian, UK), C. Navarro (Turrialba, Costa Rica) and A.J. Lowe (Midlothian, UK and Brisbane, Australia) .... 285
Cataloguing *in situ* protection of genetic resources for major commercial forest trees in British Columbia
A. Hamann, S.N. Aitken (Vancouver, Canada) and A.D. Yanchuk (Victoria, Canada). ..... 295
Gene flow between cultivated poplars and native black poplar (*Populus nigra* L.): a case study along the river Meuse on the Dutch–Belgian border
A. Vanden Broeck (Geraardsbergen, Belgium), V. Storme (Gent, Belgium), J.E. Cottrell (Midlothian, UK), W. Boerjan, E. Van Bockstaele (Gent, Belgium), P. Quataert and J. Van Slycken (Geraardsbergen, Belgium) ..... 307
In situ genetic conservation of a naturally restricted and commercially widespread species, *Pinus radiata*
D.L. Rogers (Davis, CA, USA) ..... 311

**Conclusion**

*Review article*
Response of forest trees to global environmental changes
J.L. Hamrick (Athens, GA, USA) ..... 323

**Contents of *Forest Ecology and Management*, Volume 197** ..... 337